

# The role of multimodal Mistletoe application, endogenous (fever) & exogenous Hyperthermia

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## Abstract

### The role of multimodal Mistletoe application, endogenous (fever) & exogenous Hyperthermia

The benefits of Mistletoe prescribing for patients with cancer are well documented. Studies have consistently shown safety and improved quality of life, and some suggest improved disease-free periods and overall survival, but the evidence for this needs further confirmation. Gunver Kienle and Helmut Kiene conducted a thorough systematic review following extensive preparatory work for a Health Technology Assessment (HTA) in Switzerland.<sup>1,2,3</sup> They created an independent website with high quality information on all aspects of Mistletoe research in both German and English.<sup>4</sup> Since 1991 an International Mistletoe Conference has been – the next one in 2011 (Nonnweiler, Germany)<sup>5</sup>. In 2008 a Cochrane review was published<sup>6</sup>, and Kienle & Kiene released a critique, available on their website.<sup>4</sup>

**Traditional low dose Mistletoe** prescribing comprises subcutaneous administration of low doses of mistletoe (typically in doses < 1–10 mg) and is suitable for out-patients settings and self-administration within the community. Most of the literature covers this approach and document improved tolerance of standard cancer therapies and improved tolerance and recovery. The assumptive survival benefits are shown with at least 2 years treatment.<sup>7</sup>

In a number of consultant-led centres, off-label intratumoural and intravenous application is routinely and safely applied. In our work in the UK (Park Attwood Clinic), significant tumour responses were observed with combined regimes of intra-tumoural, intravenous and febrile induction. In mainstream immunology there is evidence emerging for improved and *tumour specific* immune responses arising from intratumoural administration of immune modulatory agents. Also, the benefits of fever in cancer treatment and immune-priming in particular are well documented.<sup>8,9</sup> This may offer a rationale for some remarkable results with several patients, with remissions that exceed 2-3 years.<sup>9</sup>

As a consequence, we recommend **high dose Mistletoe induction with febrile intent** in the treatment of patients with cancer, and where possible in a neoadjuvant setting. This approach is accompanied by an initial treatment burden and requires close supervision to monitor the marked flu like and fever responses. We use additional intravenous administration for these inductions, particularly when there is metastatic disease or a high risk of relapse. The intravenous 'loading' is thought to enhance the response to the subsequent high dose subcutaneous 'priming'. Where possible, intra-tumoural injections (*in situ* priming) are included and already one or two intratumoural injections may improve the immune response.

**Whole Body Hyperthermia** is a non-invasive and supportive measure in cancer treatment and has been introduced for two reasons. Firstly, it has been established that moderate (fever range) hyperthermia improves immune responses. Secondly, Hyperthermia renders tumours more susceptible to other treatments like chemotherapy, radiotherapy and immunotherapy.<sup>13,14,15</sup> We now recommend Hyperthermia in conjunction with Mistletoe therapy and suggest 4–6 sessions

either weekly or fortnightly – after completing the induction phase of Mistletoe Therapy, i.e. in an adjuvant setting. However patients already established on Mistletoe may also benefit from Hyperthermia at any stage of their treatment, or at time of relapse.

An overview of this integrative approach to the treatment of cancer is contained in a recently completed dissertation.<sup>16</sup>

## References

- <sup>1</sup> GS Kiene, H Kiene. Complementary Cancer Therapy: A Systematic Review of Prospective Clinical Trials on Anthroposophic Mistletoe Preparations. *Eur J Res* (2007)12: 103-119
- <sup>2</sup> GS Kienle, H Kiene and HU Albonico. *Anthroposophic Medicine: Effectiveness, Utility, Costs, Safety*, Schattauer Verlag, Stuttgart, New York 2006.
- <sup>3</sup> GS Kienle, H Kiene and HU Albonico. Health Technology Assessment Bericht Anthroposophische Medizin. Erstellt im Rahmen des Programm Evaluation Komplementärmedizin (PEK) des Schweizer Bundesamtes für Sozialversicherung. (2005)
- <sup>4</sup> <http://www.mistel-therapie.de> Institute for Applied Epistemology and Medical Methodology, Zechenweg 6, D-79111 Freiburg, Germany.
- <sup>5</sup> 2010: <http://www.phytotherapy.org/Mistelsymposium-2011-Programm-28-08.pdf>
- <sup>6</sup> GS Horneber M A *et al.* Mistletoe therapy in oncology (Review). *The Cochrane Collaboration*®. *The Cochrane Library* 2008, Issue 2 (Wiley & Sons Ltd).
- <sup>7</sup> Grossarth-Maticsek R, Kiene H, Baumgartner SM, Ziegler R. Use of Iscador, an extract of European mistletoe (*Viscum album*), in cancer treatment: prospective nonrandomized and randomized matched-pair studies nested within a cohort study. *Altern Ther Health Med.* 2001;7(3):57-76
- <sup>8</sup> SAH Cann, JP & C van Netten. Dr William Coley and tumour regression: a place in history or in the future? *Postgrad.Med.J.* (2003) 79: 672-680
- <sup>9</sup> U Hobohm. Fever therapy revisited. *Brit J Cancer* (2005) 92: 421-425
- <sup>10</sup> M Orange, A Lace, H B von Laue. The importance of the primary dosage in mistletoe therapy. *J Phytomedicine* 2007; 14: VII 29
- <sup>11</sup> Orange M, Lace A, von Laue HB. The importance of the primary dosis in mistletoe therapy. In: *Die Mistel in der Tumorthherapie 2*. Eds: R Scheer *et al.* KVC Verlag. 2009:385-400
- <sup>12</sup> M Orange, M Fonseca, A Lace, H B von Laue, S Geider. Durable tumour responses following primary high dose induction with mistletoe extracts: Two case reports. *Eur J Integr Med* 2010;2:63-9
- <sup>13</sup> P Wust *et al.* Hyperthermia in combined treatment of cancer. *Lancet Oncol* (2002) 3: 487-97
- <sup>14</sup> B Hildebrandt *et al.* The cellular and molecular basis of Hyperthermia. *Crit.Rev. Oncol / Hematol.* (2002) 43: 33-56
- <sup>15</sup> Information about the Heckel-HT3000 device: <http://www.heckel-medizintechnik.de>
- <sup>16</sup> Orange M. Mistletoe for Cancer Patients. A thesis submitted to for the degree of Master of Science in Clinical Oncology. The University of Birmingham School of Cancer Sciences. 2010

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